

SAFETY COMMISSION AGENDA STATEMENT

Item 6
Meeting Date 5/01/13

ITEM TITLE: Resolution of the Safety Commission of the City of Chula Vista recommending that the Chula Vista City Council increase the existing speed limit on 'E' Street between Toyon Lane and East Flower Street/Bonita Road from 30 mph to 35 mph, and that Schedule X of the register maintained in the Office of the City Engineer be amended to reflect the revised speed limit

SUBMITTED BY: Principal Civil Engineer *FXR*

Staff completed an Engineering and Traffic Survey for a segment of 'E' Street in accordance with the California Vehicle Code, which indicates that the posting of speed limits be determined by an Engineering and Traffic Survey for each street with a posted speed limit within the City. Based on the results of this speed survey, staff has determined that the speed limit on 'E' Street between Toyon Lane and East Flower Street/Bonita Road should be increased from 30 mph to 35 mph (see Attachment 1, Location Plat).

RECOMMENDATION: That the Safety Commission concur with staff and recommend the Chula Vista City Council increase the existing speed limit on 'E' Street between Toyon Lane and East Flower Street/Bonita Road from 30 mph to 35 mph, and that Schedule X of the register maintained in the Office of the City Engineer be amended to reflect the revised speed limit.

DISCUSSION:

Currently, there are 30 mph posted speed limit signs on 'E' Street between Toyon Lane and East Flower Street/Bonita Road.

City staff completed a speed survey along a segment of 'E' Street in accordance with the California Vehicle Code, which indicates that the posting of speed limits be determined by an Engineering and Traffic Survey (see Attachment 2). As described in the California Vehicle Code, the survey shall include:

- (1) Prevailing speeds as determined by traffic engineering measurements;
- (2) Accident records;
- (3) Traffic/roadside conditions not readily apparent to the driver.

These roadway characteristics are then used to help determine an appropriate speed limit. In addition, the Manual on Uniform Traffic Control Devices (MUTCD) states that the speed limit shall be established at the nearest 5mph increment of the 85th percentile speed. Also, if the 5mph reduction is applied, the Engineering and Traffic Survey shall document in writing the conditions

and justification for the lower speed limit and be approved by a registered Civil or Traffic Engineer.

Speed limits established on the basis of the 85th percentile speed conform to the consensus of those who drive the street as to what speed is reasonable and safe, and are not dependent on the judgment of one or a few individuals. Speed limits posted higher than the 85th percentile speed are not generally considered reasonable and safe while speed limits posted below the 85th percentile typically do not facilitate the orderly movement of traffic. Only when roadside development results in traffic conflicts or unusual conditions not readily apparent to drivers may speed limits be further reduced.

The Engineering and Traffic Survey determined that the 85th percentile speed on 'E' Street between Toyon Lane and East Flower Street/Bonita Road is 36 mph. Per speed limit establishment protocol, this was measured during the off-peak hours under normal driving conditions, as required per the MUTCD.

Physical Conditions

'E' Street between Toyon Lane and East Flower Street/Bonita Road is 1,518 feet (0.29 miles) long and 64' wide curb-to-curb. The street is classified as a 4-Lane Major. The street has no bike lanes and is not designated as a bike route. There is no parking allowed along the entire segment.

The following table describes the existing conditions along the segment of 'E' Street:

Segment Limits	'E' Street between Toyon Lane and East Flower Street/Bonita Road
Length/Width	1,518 feet (0.29 miles)/ 64' wide curb to curb
Classification	4-Lane Major
ADT (Year)	16,951 (2013)
Exist. Speed Limit	Posted 30 mph
85 th % Speed	36 mph between Toyon Lane and East Flower/Bonita Road
Number of Lanes	4 total lanes (2 per direction).
Striping	4 lanes, right-turn and left-turn pockets, crosswalks and limit lines.
Parking and Bike Facilities	No parking allowed. There are no bike lanes or bike route designation.
Land Use	Residential and multi-family.
Horizontal Alignment	A horizontal curve with a radius of 500 ft over a length of 676.11 ft is located east of Toyon Lane and produces a design speed of 38 mph.
Vertical Alignment	A crest vertical curve is located 50 ft east of Toyon Lane with a -2.5% to -7.0% grade change and produces a design speed of 39 mph. A sag vertical curve is located 400 ft east of Hilltop Drive with a -8.07% to -1.405% grade change produces a design speed of 43 mph.
Accident Rate: Segment / State	The accident rate at this segment is 0.0 (accidents per million vehicle miles) and is lower than the rate of 1.93 for similar roadways in the State of California (2010). There were no accidents between 1/1/08 and 12/31/10.

Special Conditions	No bike lanes along the entire segment. No sidewalks on the north side of 'E' Street. Intersection warning sign with a flashing beacon was installed in the WB direction for Corte Maria Avenue. A "Watch Downhill Speed" sign with a flashing beacon was installed in the EB direction, east of Toyon Lane.
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There is an existing "intersection ahead" warning sign with a yellow flashing beacon west bound approaching Corte Maria Avenue. At the intersection of Corte Maria Avenue and "E" Street, there is only right turn movements into and out of Corte Maria Avenue. Also, there is a "Watch Down Hill Speed" Sign with a yellow flashing beacon in the eastbound direction of "E" Street east of Toyon Lane.

CONCLUSION:

When speed limits are appropriately established (set at the 5 mph increment of speed in the upper half of the normal pace of traffic (85th percentile)) the following objectives are achieved:

- Meaningful, unambiguous enforcement
- Voluntary public compliance
- Clear identification of the unreasonable violator
- Elimination of unjustifiable "tolerances" of higher speed travel

Based on the 85th percentile speed of the roadway, as well as a low collision rate outlined in the Engineering/Traffic Survey, staff has determined that the speed limit on 'E' Street should be increased to 35 mph from East Flower Street/Bonita Road.

Should the City Council establish the proposed 35 mph speed limit, Schedule X of the register maintained in the office of the City Engineer would be amended to reflect the revised speed limit as follows:

10.48.020 Schedule X – Established Speed Limits in Certain Zones – Designated			
Name of Street	Beginning At	Ending At	Proposed Speed Limit
'E' Street	Toyon Lane	East Flower Street/Bonita Road	35 mph

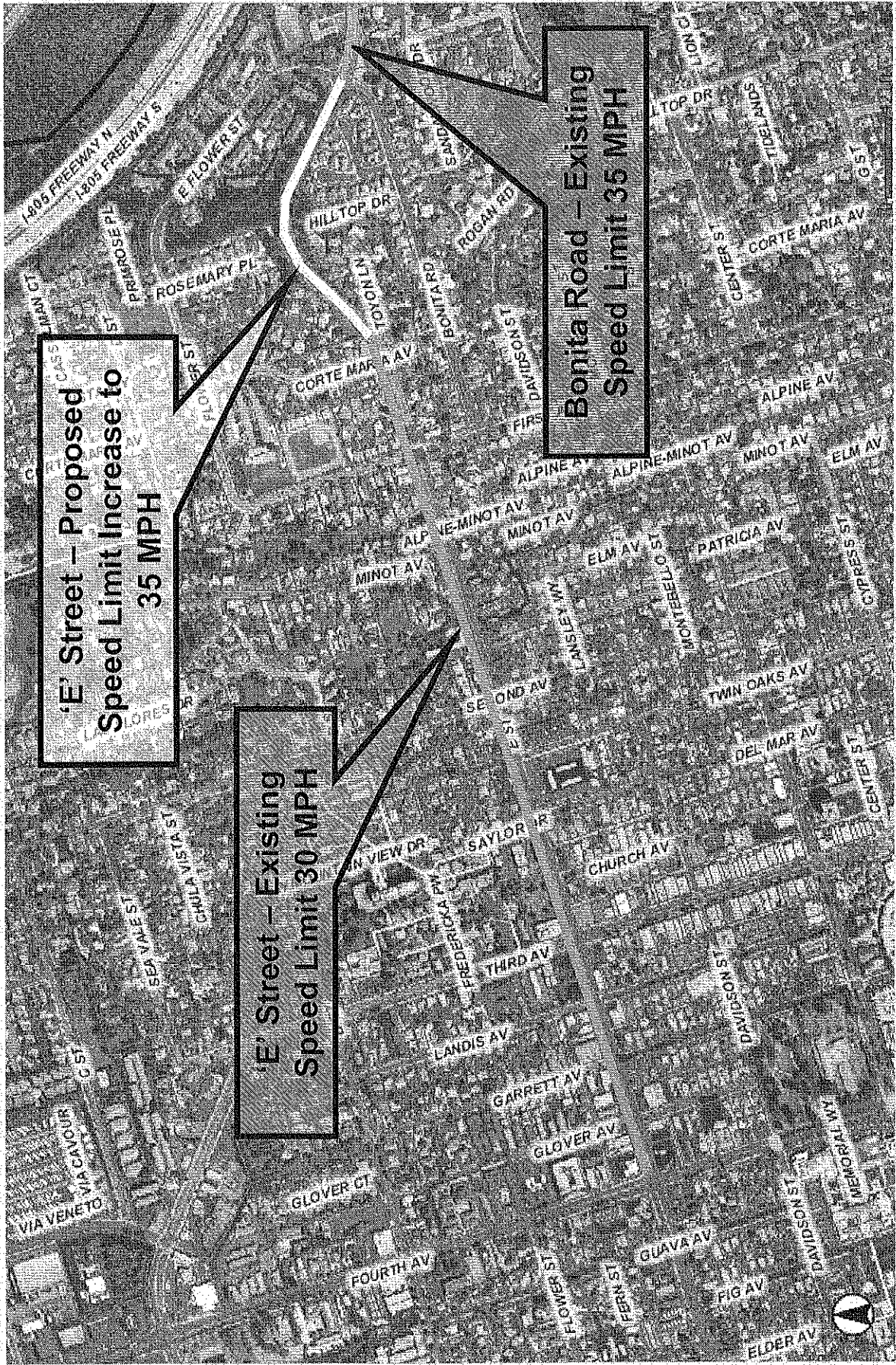
FISCAL IMPACT:

The establishment of the speed limit would require the posting of new speed limit signs and speed limit legends and warning signs. This work will be funded by an existing Traffic Engineering Capital Improvement Project, TF-332, Signing and Striping Program.

Attachments: Location Plat
Speed Survey



Location Map



SPEED LIMIT - ENGINEERING/TRAFFIC SURVEY

STREET: "E" Street

LIMITS: Toyon Lane to E. Flower Street/Bonita Road

Length of Segment (ft): 1,518' (0.29 miles)

Existing Posted Limit (mph): 30 mph

SUMMARY OF SPEED SURVEYS

Segment: Toyon Lane - E. Flower Street

Date Taken: 3/7/2012

No. of Vehicles on Sample (cars): 100

85th Percentile (mph): 36

Range of Speeds Recorded (mph): 29 - 40

ROADWAY CHARACTERISTICS

Width (ft): 64' curb to curb

Total No. of Lanes: 4 total lanes (2 per direction)

Horizontal Alignment: A horizontal curve with a radius of 500' over a length of 676.11' is located east of Toyon Lane produces a design speed of 38 mph.

Vertical Alignment: A crest vertical curve is located 50' east of Toyon Lane, with a 2.5% to -7.0% grade change produces a design speed of 39 mph.

A sag vertical curve is located 400' east of Hilltop Drive with a -8.07% to a -1.405% grade change produces a design speed of 43 mph.

TRAFFIC CHARACTERISTICS

Average Daily Traffic: 16,951 (2013)

On-Street Parking: No Parking allowed along entire segment.

Special Conditions: No bike lanes along the entire segment. No sidewalks on the north side of 'E' Street.

Intersection warning sign was installed in the westbound direction for Corte Maria Avenue.

Accident History: The accident rate for this segment is 0.00 (accidents per million vehicle miles) which is lower than the rate of 1.93 for similar roadways in the State of California (2010).

SURVEY RESULTS

Study was Prepared by: Ben Herrera

Date: 3/8/2013

Recommendation: Increase speed limit to 35 mph based on the 85th percentile speed and roadway characteristics.

Date Recommendation Approved:

By: Muna Cuthbert, P.E.

Approved Speed Limit (mph): 35 mph

Per CVC 40802, Survey Expires: 3/7/2019

CITY OF CHULA VISTA - VEHICLE SPEED SURVEY

SEGMENT UNDER STUDY: E Street (Toyon Lane - E. Flower St/Bonita Rd)

DATE: 3/7/2012

SURVEY SITE: Mid-block (Toyon Lane - E Flower St)

POSTED SPEED: 30 MPH

TIME START: 12:02

TIME END: 12:37

WEATHER: Sunny/Clear

MPH		DIRECTION: EB = O WB = /																				TOTAL	%	CUM %			
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85th	36	O	O	O	O	O	\	\	\	\	\													10	10	87	
	35	O	O	O	O	O	O	O	O	O	O	O	\	\	\	\	\	\	\	\				20	20	77	
	34	O	O	O	O	O	O	O	O	\	\	\	\	\	\	\	\							16	16	57	
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	31	O	O	O	\	\	\	\																8	8	12	
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RECORDER: ROBERTO RUVALCABA											TOTAL NUMBER OF VEHICLES: 100																